



Certificate of Analysis

ISO 9001

Reference Material

Product name

Sulfamethoxazole N4-β-D-Glucoside

Product code

MM0227.07-0025

CAS number

119691-75-7

Molecular weight

415.42

Molecular formula

C₁₆H₂₁N₃O₈S

Lot number

1024802

Appearance

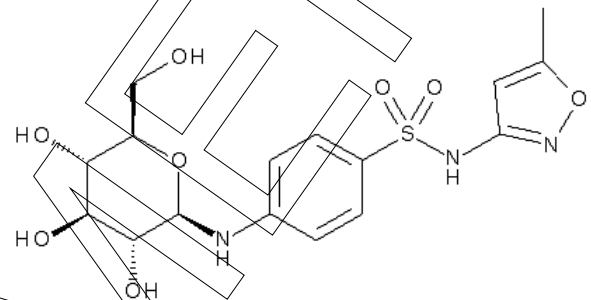
light yellow solid

Melting point

132 °C (dec)

Long-term storage

2 to 8 °C, dark
hygroscopic



Assay "as is"
96.1 %

Date of shipment:

13 Sep 2019

Producer confirms that this reference material (RM) meets the specification detailed on this Certificate of Analysis for **one year** from the date of shipment, provided the substance is stored under the recommended conditions unopened in the original container.

Release by:	Date of Release:		Product Release
Dr. Sabine Schröder	Luckenwalde, 03 Sep 2019		



Mikromol™

Product information

For laboratory use only. Not suitable for human or animal consumption.

Before usage of the RM, it should be allowed to warm to room temperature. No drying required, as the certified value is already corrected for the content of water and other volatile materials.

The product quality is controlled by regularly performed quality control tests (retests).

Further content

Identity

Assay

Final result

Revision table

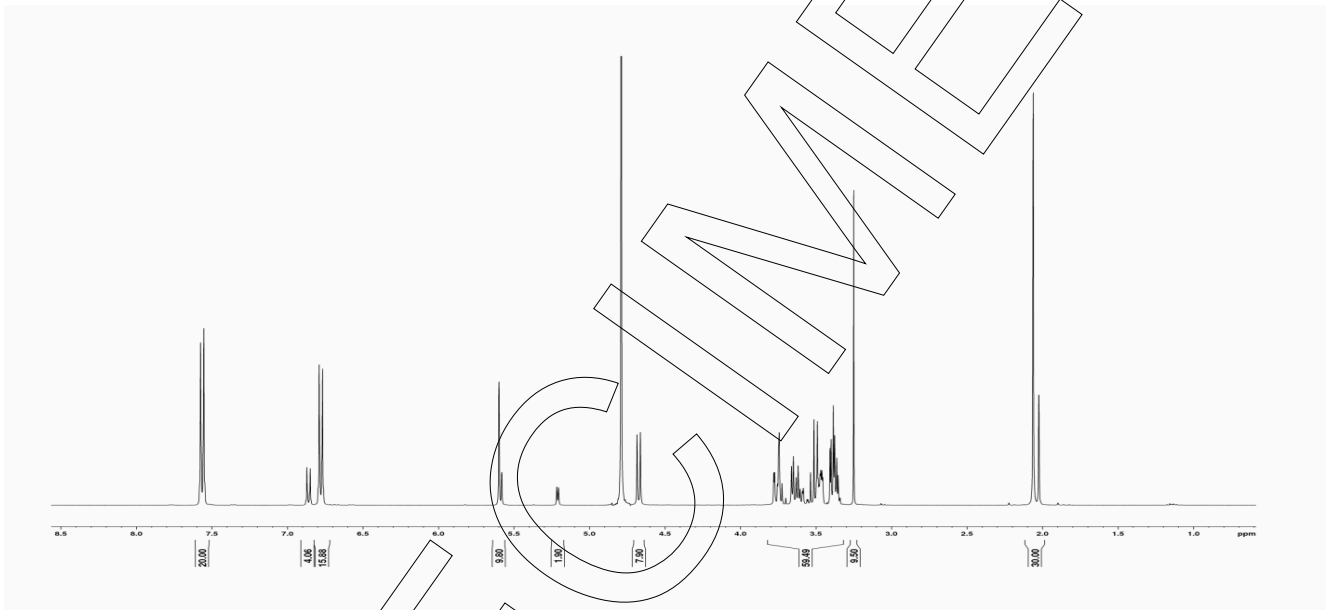
SPECIMEN



Identity

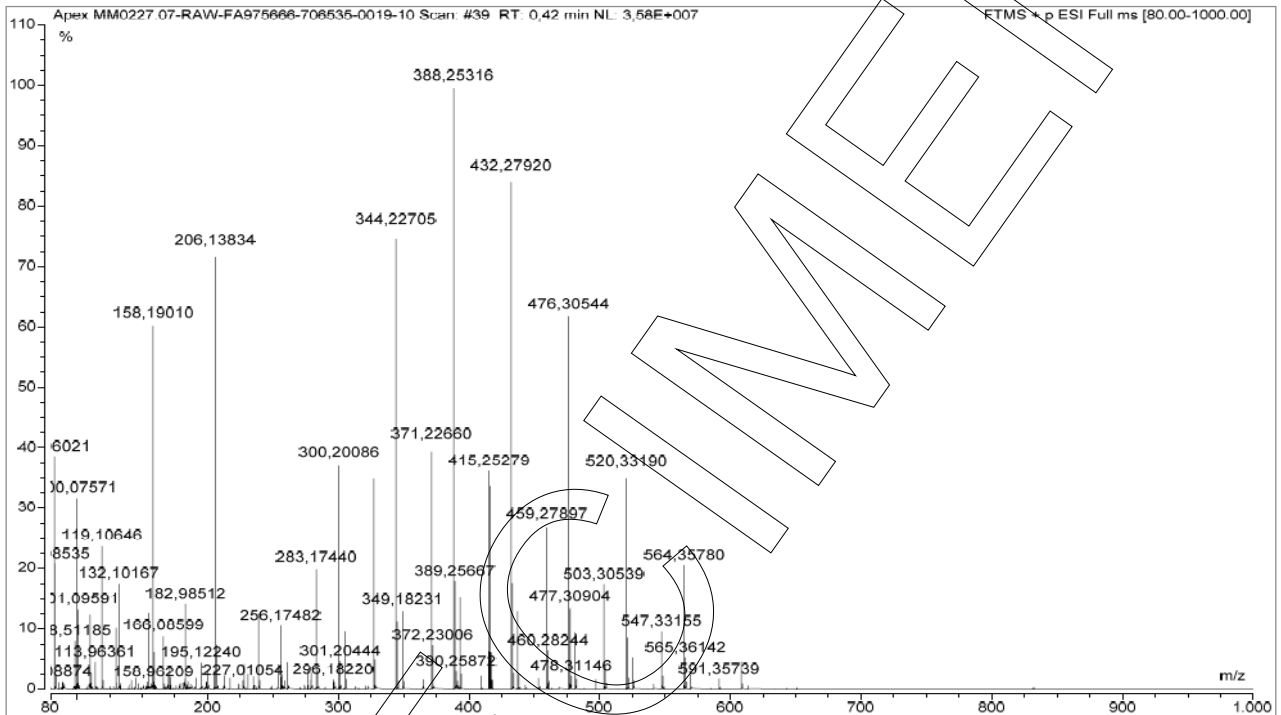
The identity of the reference material was established by following analyses.

Method	Conditions	Result
¹ H-NMR	400 MHz, 0.5 M K ₂ DPO ₄ /KD ₂ PO ₄ in D ₂ O; pH8	Structure confirmed





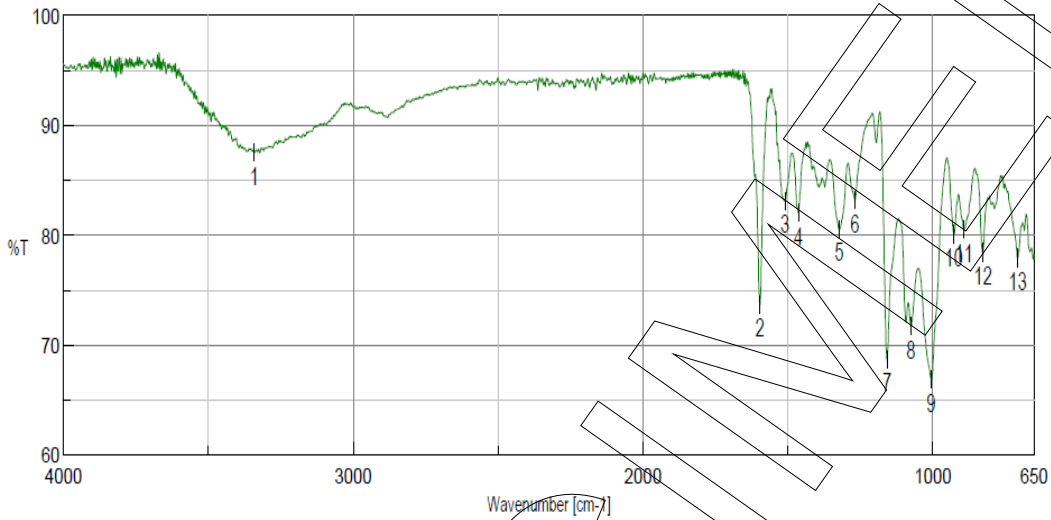
Method	Conditions	Result
MS	3.5 kV ESI+; capillary temperature: 269 °C Theoretical value: 416.11221	Structure confirmed



SPREMIEN



Method	Conditions	Result
IR	Attenuated Total Reflection Fourier Transform Infrared (ATR-FTIR) Spectroscopy	Structure confirmed



No.	Position	Intensity
1	3341.07	87.4665
2	1595.81	73.6458
3	1509.99	83.0404
4	1462.74	82.0106
5	1321.96	80.5018
6	1267.97	83.1735
7	1157.08	68.6884
8	1074.16	71.671
9	1004.73	66.8535
10	925.664	80.0576
11	892.88	80.4692
12	826.348	78.3964
13	706.783	77.8481

SPECS



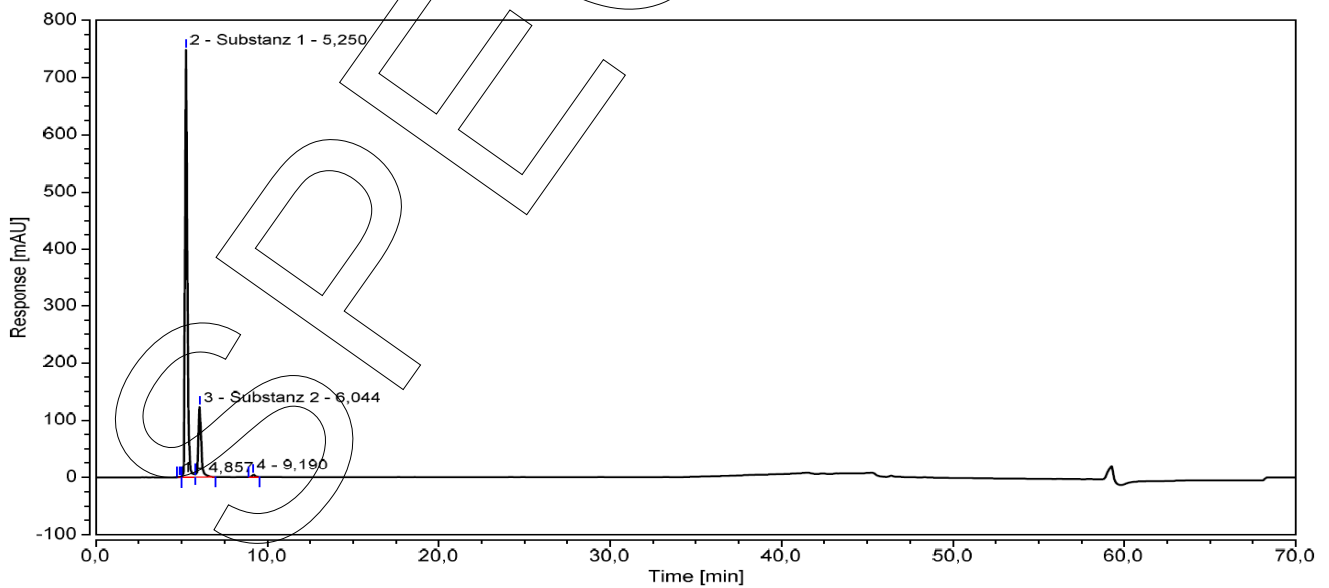
Assay

The assay of the reference material was assessed by following analyses.

Purity by High Performance Liquid Chromatography (HPLC)

HPLC Conditions:	
Column	Hypersil Gold PFP: 5 µm, 150 x 4.6 mm
Column temperature	40 °C
Detector	DAD, 240 nm
Injector	Auto 5.00 µl; 0.250 mg/ml in mob. phase A
Flow rate	0.7 ml/min
Phase A	1.25 ml/l NET_3 in Water, pH 5.45 / ACN 9/1 (v/v)
Phase B	Acetonitrile
Gradient program	0 min A/B 100/0 0-30 min A/B to 85/15 30-55 min A/B to 26/74 55-55.10 min A/B to 100/0 55.10-70 min A/B 100/0 (v/v)

HPLC chromatogram and peak table





Area percent report - sorted by signal				
Pk #	Retention time	Area	Area %	
1	4.857	0.013	0.01	
2	5.250	113.814	83.02	substance 1
3	6.044	22.381	16.32	substance 2
4	9.190	0.891	0.65	
Totals		137.099	100.00	

The content of the analyte was determined as ratio of the peak area of the analyte and the cumulative areas of the purities, added up to 100 %. System peaks were ignored in calculation.

Result (n = 3)	99.29 %; SD = 0.06 %
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Volatile content

Water content	
Method	Karl Fischer titration
Result (n = 3)	0.80 %; SD = 0.02 %

Residual solvents	
Method	¹ H-NMR
Result (n = 1)	Sum: 2.38 % 2.38 % Methanol



Final result

Assay "as is": 96.13 %

The assay "as is" is assessed by 100% method (mass balance) and is equivalent to the assay based on the not anhydrous and not dried substance respectively.

The calculation of the 100% method follows the formula:

$$\text{Assay (\%)} = (100 \% - \text{volatile contents (\%)}) * \frac{\text{Purity (\%)}}{100 \%}$$

Volatile contents are considered as absolute contributions and purity is considered as relative contribution. Inorganic residues are excluded by additional tests.

Revision table

Revision	Date	Reason for revision
00	03 Sep 2019	Release of the Certificate of Analysis - initial version

Product warranties for the RM are set out in the terms and conditions of purchase.